In the Claims:

Claims 1-23 (Canceled).

Claim 24 (New). A method of visualizing a curved layer of a body, which comprises:

providing volumetric data, the volumetric data having first voxels belonging to a reference surface;

determining second voxels of the volumetric data having a user selected distance from the reference surface; and

visualizing the second voxels by orthogonal or perspective projection.

Claim 25 (New). The method of claim 24, which further comprises segmenting the volumetric data to identify the first voxels.

Claim 26 (New). The method of claim 24, wherein the user selected distance of each one of the second voxels from the reference plane is determined along a direction of projection.

Claim 27 (New). The method of claim 24, wherein the user selected distance of each one of the second voxels from the reference surface is determined by a minimum distance measure.

Claim 28 (New). The method of claim 27, wherein the minimum distance measure is a Euclidean distance.

Claim 29 (New). The method according to claim 24, wherein:

the volumetric data is medial image data; and

the reference surface is a body-region surface.

Claim 30 (New). The method according to claim 29, wherein said volumetric data is a thorax CT scan.

Claim 31 (New). The method according to claim 29, wherein the body-region surface is a surface of a lung.

Claim 32 (New). The method according to claim 29, wherein the body-region surface is a surface of a pathological structure.

Claim 33 (New). The method of claim 24, wherein the volumetric data is three-dimensional microscopy data.

Claim 34 (New). The method of claim 24, which further comprises:

including a two dimensional slice in the volumetric data;

pre-processing the volumetric data in a reformatting step, the reformatting step including:

moving all of the first voxels of the reference surface to a common row,

moving the voxels lying outside the reference surface within the slice such that respective distances from the reference surface remain constant and such that all of the first voxels that are equidistant to the reference surface are moved into a common row of the slice; and

visualizing the second voxels by generating an image for the voxels within common row positions in parallel slices.

Claim 35 (New). A computer program product for volume visualization of a curved layer of a body, comprising program means for performing the steps of:

providing volumetric data, the volumetric data having first voxels belonging to a reference surface;

determining second voxels of the volumetric data having a user selected distance from the reference surface; and

visualizing the second voxels by orthogonal or perspective projection.

Claim 36 (New). The computer program product of claim 35, wherein the program means are adapted to perform a segmentation of the volumetric data to identify the first voxels.

Claim 37 (New). A computer system for visualization of a curved layer of a body, comprising:

means for storing volumetric data, the volumetric data having first voxels belonging to a reference surface;

means for determining second voxels of the volumetric data having a user selected distance from the reference surface; and

means for visualizing of the second voxels by orthogonal or perspective projection.

Claim 38 (New). The computer system of claim 37, further comprising means for segmenting the volumetric data to identify the first voxels.

Claim 39 (New). The computer system of claims 37, further comprising user interface means for entering the user selected distance, the user interface means preferably including a wheel mouse or virtual slider, an amount of rotation of the wheel of the wheel mouse or a slider position being indicative of the user selected distance.